ACADENTY CALDENTY

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HISTORY
MUSEUM

NEWSLETTER OF THE CALIFORNIA ACADEMY OF SCIENCES



Academy Teams Up with (SF) Spiders

In order to provide Academy members increased access to arachnids, the Academy of Sciences is proud to announce that it is teaming up with the San Francisco Spiders, the Bay Area's newest hockey team. Now Spider fans and, well ... spider fans can share the excitement of their respective webbed environments.

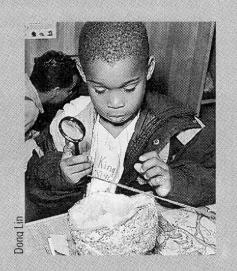
Now through June 1997, an Academy of Sciences' membership entitles you to a two-for-one ticket in any price category for a Spiders' home game.

In the spirit of arthropodic cooperation the Academy will give a discount on Academy of Sciences admission to Spider ticket holders. Holders of a Spiders ticket stub will receive a \$1 adult discount, or free child with paid adult. All Spider season ticket holders will receive two for one admission (of equal or lesser value) by showing their season ticket holder pin at the Academy's admission desk.

For tickets to Spider games, show your Academy of Sciences membership card at the Cow Palace box office at game time, or call 1-800-SFHOCKEY. Watch for future joint activities between two of the Bay area's favorite attractions.

OPEN HOUSE

FOR MEMBERS



ou won't even need a woolly coat or mittens as the Ice Ages descend on the Academy as the theme for Members Open House, Tue., **April 30**, from 6 p.m. to 9 p.m.

Start off your visit with a cool stroll through the "Creatures of the Ice Age & Other Amazing Mammals" exhibit,

before you go upstairs and downstairs to visit the world-famous collections of the Academy's eight research departments. You'll meet the scientists who study such fascinating subjects as sharks, butterflies, gems, dinosaurs, bird calls and human cultures.

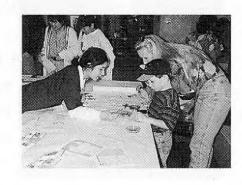
You'll visit the aquarium from down under, and get a fish-eye view of Steinhart's tenants, and see the complex water system that provides oxygen to all the fish. The planetarium will have a program on how sky and laser shows are created using an automated console. And, of course, all exhibits on the main floor will be open for you to enjoy.

The Academy Store will be open so you can take advantage of your 10 percent members discount. A light meal for a nominal fee, will be served in the Jungle Cafe from 6 p.m. to 8 p.m.



Open House is our way of saying "thank you" for your continued enthusiasm, contributions and interest of the Academy of Sciences.

Members Open House is an exclusive benefit for members only. This is a perfect time to invite your friends to become members so they may attend this event. Consider a gift membership, which offers year-round benefits and helps support education and research at the Academy of Sciences. See the order form on the back cover to order a gift membership.



Science and Technology Weekend

Build a birdhouse, test your pasta-marshmallow-graham cracker house for seismic safety and design a Super Spinner for speed. These are only some of the activities slated for the weekend of **April 27 and 28**. Families can participate in National Science and Technology Week (NSTW) by enjoying hands-on activities that explores science and how it plays into our everyday lives.

This year's annual family weekend focuses on design. Children will begin to grasp the uses and goals of science in design by participating in activities such as building structures out of toothpicks and birdhouses out of milk cartons. Professional engineers will be on-hand to further encourage children to look at careers in science. Activity booths will be set up in the main entrance and throughout the exhibit halls, and are free after general admission. Activities will be ideal for children aged 3 through 15 and their families.

NSTW, promoted by the National Science Foundation, encourages the public to discover, first-hand, the excitement of exploration and discovery.

MEMBERS MEETING

TechnoToad

What do the scanning electron microscope, the Kayelemetrics Signal System, Silicon Graphic GIS, allozymes, DNA sequences and the Internet all have in common? To Academy herpetologist Dr. Bob Drewes, they are all just new ways of studying African frogs. Join Drewes as he presents an overview of his research in Africa, and how the advent of high technology at the Academy has affected the way he asks and attempts to answer biological questions. His talk will be illustrated by slides and the wizardry of the Academy's on-line liquid crystal projector.

Drewes has spent much of the past two and half decades exploring the swamps, deserts and isolated forests of 29 African countries, searching for rare, poorly known reptiles and amphibians.

Drewes is a fellow of the Royal Geographic Society, a member of the National CITES Standing Committee of the Kenya Wildlife Service, has served as an international consultant for the United Nations and as an advisor to the Ministry of Wildlife, Republic of Uganda. He has an abiding love for Africa, its people and history, and in 1969 became an honorary elder of the Rendille, a nomadic group inhabiting the deserts of northern Kenya.

Wed., April 10 — 2 p.m. & 7:30 p.m.

Bob D

Please present your membership card both at the front entrance and the auditorium. This program is a benefit of membership. Members' guest passes can be purchased prior to the lecture for \$10 each for adults and \$5 for children. Please note: only the main entrance will be open for the members' evening lectures.

T ACADEMY TRAVEL

Papua New Guinea: A Cultural and Wildlife Expedition



Papua New Guinea is a land of scattered tribes speaking more than 700 dialects in a land of awe-inspiring mountains, plunging gorges, rushing rivers and endless miles of tropical rain forests.

Your tour, with guide Terry Gosliner, will begin in Port Moresby and continue to Mt. Hagen in the Western Highlands. A charter flight will take you to the magnificent Karawari Lodge, 300 feet above the remote, unspoiled Karawari River. The *M.V. Sepik Spirit* will usher you to the Middle Sepik. You're then off by plane to Tari in the Southern Highlands and the Tari Gap area, home to 13 species of bird

of paradise. Your last nights will be spent at the Jais Aben Resort located by the Bismark Sea. An optional four-night diving extension also will be offered.

Oct. 16-Nov. 4

Cost: \$6,495 per person (double occupancy), including airfare

Burma: The Road to Mandalay

Join the Academy of Sciences curator of anthropology, Nina Jablonski, on a tour of one of the most beautiful and captivating destinations in the world today, Burma (now renamed Myanmar). Burma has changed very little in recent decades, and it preserves a wealth of ancient and recent human history. This tour will emphasize the cultural richness and reli-



gious legacy of Burma as we wind our way northward on the Irrawaddy Plain to Pagan, which boasts more than 2,000 Buddhist temples. Mandalay and its environs, the old British hill station of Maymyo, the monasteries at Amarapura and Sagaing, the hill sta-

tion of Kalaw, Inle Lake and the Pindaya Caves are all on this exciting itinerary.

November 2–15 Cost: \$3,775 (15 passengers, double occupancy), plus air; \$3,990 (10–14 passengers, double occupancy), plus air

For more information on these and other Academy of Sciences' staff-led tours, please call 750-7348.

ADULT EDUCATION

Ice Age Mammals Tour With the Expert

Join our special adult education course to learn the in-depth, scientific details of the Academy of Sciences' exhibit, "Creatures of the Ice Age & Other Amazing Mammals." Dr. Kevin Padian will share his knowledge of the evolution of mammals in a private tour of the exhibit. Learn about

mammals from the first small, inconspicuous, shrew-like creatures through 65 million years of evolution, including the giant sloth, saber-toothed cats and the

woolly mammoth. The exhibit's robotic animals are accompanied by rarely-seen material from the Academy of Sciences' collections and the U.C. Berkeley Museum of Paleontology.

Padian, a fellow of the Academy of Sciences, is professor of integrative biology and curator at the Museum of Paleontology at U.C. Berekely. He also is president of the National Center for Science Education, an organization that strives to explain scientific controversies and preserve the integrity of science in its presentation to the public.

Wed., April 10 — 7 p.m. to 8:30 p.m. \$10 members/\$12 nonmembers

To register, please use the form on the back cover. For more information on this class and others, contact the adult education program at 750-7100.

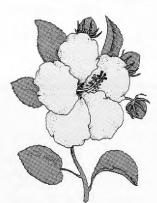
TRADITIONAL ARTS

Hawaiian Hula Dancing

In celebration of the exhibit, "Song of the Ancient Ocean:
Maui's Turning Back the Sky,"
Patrick Makuakane and the Na Lei
Hula Dancers will perform dances
from Hawaii.

Sat., April 13 — 1 p.m. (Auditorium)

Hawaiian Lei Making



Aileen Camello demonstrates the art of making fresh Hawaiian flower leis.

Sat., April 27— 1 p.m. (Auditorium)

Explore cultural traditions from around the world. Free after general admission. Call 750-7164 for more information.

CONVERSATIONS AT



The Am With No

Since pub House of and celeb bringing t lands of v Montana e was born 1939 and front whe

at the Rascal Fair, English Creek a
take place. The sequel to his r
Heart Earth. Ivan Doig's latest no
His lecture is the third annual

Thur., April 25 — 8 p.m.; For tickets 4400; \$12 members/\$16 nonmembers

This lecture series is held at the Herbst T made possible, in part, by grants from T Rhoda Goldman Fund. Other speakers in Mary Catherine Bateson, 5/28.

SPECIAL

The Song of the Dodo

Giant lizards, flightless pigeons, pygmy elephants,



flesh eating parrots — these bizarre creatures, and many more of their kind, suggest that something is different about lifeforms on islands. The subject of island biogeography — the science of the geographic distribution of life on islands — is full of exciting thrills and extravagant oddities. It also happens to be full of significance. Back in Charles Darwin's time, island biogeography was the science that opened Victorian minds to the wonders of evolution. In our own era, with all the world's habitats being chopped into island-like fragments, it's the science of jeopardy and extinction.

Former Rhodes scholar and two-time recipient of the National Magazine award for science essays David Quammen will give us both sides of the story: the gaudy entertainments of island evolution, and the dark truth of what island studies have revealed about extinction everywhere.

His latest book, *The Song of the Dodo*, contains a unique mixture of science, historical narrative and travel. There will be a book-signing after the lecture.

Tue., April 30 — 7:30 p.m. \$6 members/\$10 nonmembers

Fiji at the Crossroads & Fiordland Underwater

Two Special Lectures

Biologist Dr. Paddy Ryan will present two fascinating lectures about his passion, the natural history of the Pacific region.

On **April 17**, Ryan will discuss Fiji and some of the unusual inhabitants. This biologically diverse area is at a crossroads between wanting to preserve this area and the cultural pressures faced as a result of current conservation efforts. As a faculty member of the University of the South Pacific, Ryan has extensively studied the flora and fauna of Fiji.

His studies also have led him to research Fiordland, a unique underwater environment located in the Southwest New Zealand World Heritage area. On **April**25, Ryan will divulge the secrets of this underwater paradise. An estimated 7.5 million black coral colonies are found in Fiordland, and the region hosts the greatest diversity of temperate, sessile animals (those permanently attached to the substrate) ever measured.

Ryan will be available to sign his latest book, *The Hidden Wilderness ... Fiordland Underwater*, after both lectures.

Wed., April 17 (Fiji); Thur., April 25 (Fiordland) Both lectures at 7:30 p.m. \$6 members/\$10 nonmembers each lecture



Special Lectures are presented in the auditorium. Use order

HE HERBST THEATRE

erican West as Heart Earth velist Ivan Doig

ication of his first book, *This*ky, Ivan Doig has been praised ated as an American original, o vivid life the people and the estern America, in particular the f his birth and childhood. Doig in Sulphur Springs, Montana, in grew up along the Rocky Mountain the his trilogy of novels — *Dancing* and *Ride with Me, Mariah Montana* temoir *This House of Sky* is entitled tel is *Bucking the Sun*.

Vallace Stegner Memorial Program.

nd information, please call (415) 392-

eatre at 410 S. Van Ness Ave. The series is Columbia Foundation and The Richard & the series include E.O. Wilson, 5/13; and

YOUNG AUDIENCES





"Piñata" Caterpillar Puppets

This humorous performance, written, directed and performed by puppeteer Joe Leon, recasts the Pinnochio story in a tale set in mythical Aztec time. This story's bilingual Spanish/English presentation promotes multicultural understanding and a love of languages.

Sun., April 14— 1 p.m.

This family series is presented in the auditorium and is funded by the San Francisco Grants for the Arts. Free after general admission. For more information, call Young Audiences at (415) 863-1719.

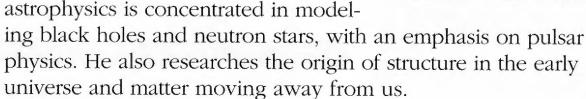
🤻 MORRISON PLANETARIUM 🐇

High Energy Pulsars: Cosmic Gamma Ray Lighthouses

B. Dean Astronomy Lecture: Pulsars are spinning neutron stars with enormous magnetic fields. These objects can accelerate particles to energies even higher than those of the proposed

Superconducting Super Collider, and thus potentially are the site of exotic high-energy physics processes. Join Dr. Roger W. Romani as he discusses new observations that indicate certain pulsars send searchlight beams of energetic gamma rays sweeping across the galaxy while others are generating winds of relativistic plasma. Learn how these data are revealing the inner mechanisms of these cosmic particle machines.

Romani is a professor of physics and member of the astronomy program at Stanford University. His work in astrophysics is concentrated in model-



Tue., April 16 — 7:30 p.m. Tickets \$3 each

The spring '96 series will continue with Tim Hunter on problems of light pollution, 5/21. For tickets, please use order form on back. Tickets may be available the day of the lecture on a standby basis. Call 750-7141 for more information.

ECTURES



How Monkeys Make Chocolate

Rain forests not only provide essential environmental factors such as oxygen, they also provide very enjoyable products such as chocolate, cola beans and avocados. Join Dr. Adrian Forsyth as he describes how for every product that comes from the rain forest, there is an elaborate ecological web supporting it. Monkeys, for example, help reforest cacao trees by eating and dispersing the cacao beans. Disturbing one small aspect of this delicate ecosystem can have huge repercussions.

Forsyth, senior scientist at Conservation International (CI), is one of the world's leading conservation biologists and has spent 20 years in the world's tropical forests. Most recently, he managed CI's Rapid Assessment Program, which enlists field biologists to generate fast, field-based assessments of areas where the biodiversity of the ecosystem appears threatened. He is the author of nine books, including his latest children's book, *How Monkeys Make Chocolate*.

A reception with hors d'oeuvres will proceed the lecture, which is co-sponsored by the Academy of Sciences and CI.

Mon., April 22 6 p.m. reception and lecture — \$36 CAS & CI members/\$45 nonmembers 7:30 p.m. lecture only — \$6 CAS & CI members/\$10 nonmembers

An Evening in the Ice Age

Mammoths in San Francisco & The Theory of Glacial Cycles

Learn all about the ice age in just one night. Join Academy of Sciences paleontologist and geologist Dr. Peter U. Rodda and U.C. Berkeley professor of physics Dr. Richard A. Muller, for a wealth of information about this rather chilly age.

Did you know that woolly mammoths have been dug up on Telegraph Hill? Peter Rodda excavated teeth and other bones of the creatures that dominated this famous hill long before the tourists. Rodda will share his knowledge of the ice age and the Pleistocene vertebrates that lived in prehistoric San Fran-

cisco. His research centers on geological history and, specifically, the evolution of fossil mollusks.

Evidence collected from rocks, sea-floor cores and Greenland ice are giving us a startling new picture of the ice ages. Richard Muller will share compelling evidence that the cycle of the ice ages was driven by changes in the Earth's orbit caused by gravitational influences of Jupiter and Venus. Muller's recent research has been in astrophysics and geophysics. He is the co-author of *The Three Big Bangs*.

There will be a special viewing of the "Creatures of the Ice Age & Other Amazing Mammals" exhibit. (The Ice Age Store also will be open.)

Thur., April 11 — 7 p.m. lecture Exhibit viewing — 6 p.m. to 7 p.m. \$6 members/\$10 nonmembers

rm for tickets. For more information, please call 750-7128.

April Sky Shows

in Morrison Planetarium are as follows:

Sky Show/Description	Weekday	Weekend 2 & 4 p.m.	
Journey by Starlight navigating by stars	2 p.m.		
Knock, Knock search for extraterrestial life	_	1 & 3 p.m	
StarTalk tour of the night sky		noon	
Where in Space is Carmen Sandiego® a family show	_	11 a.m.	

Tickets can be purchased one half hour before the show at the box office once inside the Academy of Sciences (\$2.50 adults/\$1.25 youth, though some shows vary). Members must redeem their passes for tickets at the box office prior to the show. For more information, please call 750-7141.

An Amateur Astronomer's Field Day

Amateur astronomy groups from throughout the Bay Area are hosting informal displays at the Academy of Sciences for Astronomy Day, Sat., April 20. From 10 a.m. until 5 p.m., astronomical stations will be set up in the Academy to help you find astronomical information on the Internet and World Wide Web, learn how to make your own mirrors and telescopes, work astronomical computer software and allow you to take home astronomy activities perfect for the whole family. Safe viewing of the sun will be offered in the court-yard, weather permitting. The Academy

Store and other vendors will offer a special astro-raffle and display their finest astronomical merchandise. All of these activities are free after general admission.

Like all things astronomical, the evening will bring even more excitement. If weather permits, telescopes will be set up in front of the Academy of Sciences from 7 p.m. until 10 p.m. for free observations of the heavens. Come see the bright planet Venus, the moon, the Beehive star cluster and the brightest stars of the constellations of the Big Dipper and Leo.

For more information, please call 750-7127.

Sat., April 20 — 10 a.m. to 5 p.m. Free telescope viewing — 7 p.m. to 10 p.m.

ASTRONOMY DAY

APRIL							
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	Science Week					ily	

28 Sunday Science & Technology Family Weekend, 10 a.m. (NSTW)

30 Tuesday Open House for Members, 6 p.m. (Membership)

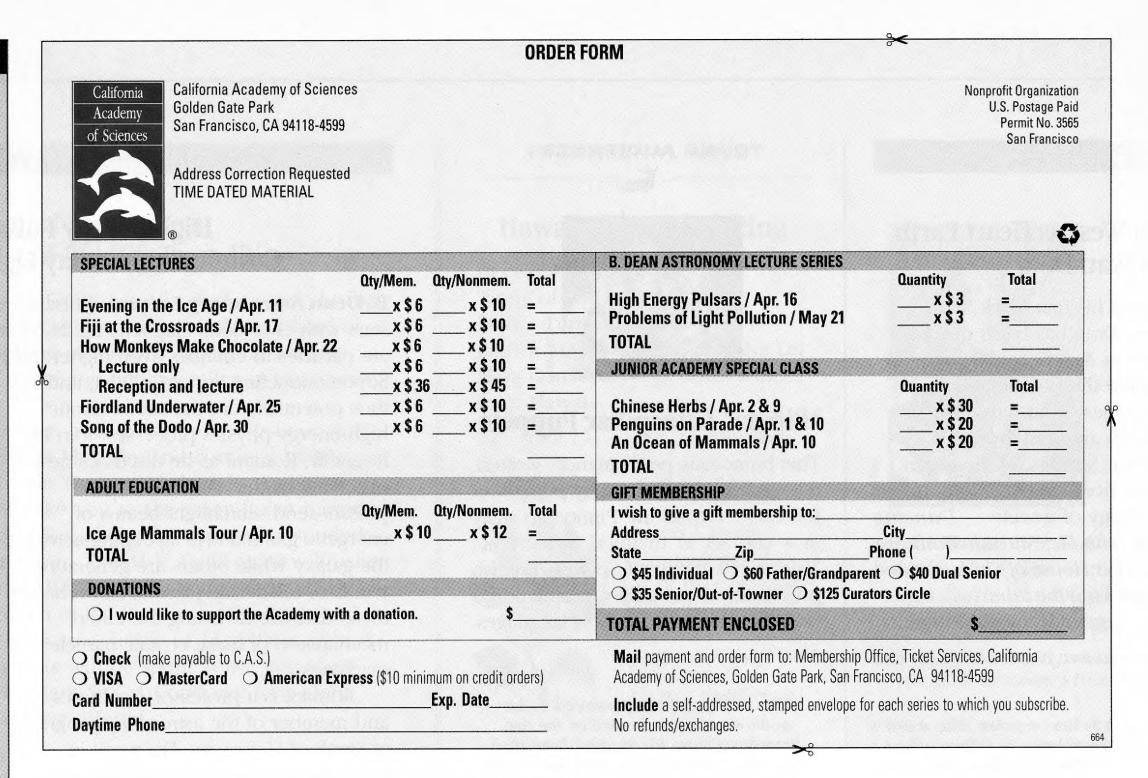
The Song of the Dodo, 7:30 p.m. (Special Lecture)

FUTURE DATES TO REMEMBER

May 2, Enchanted Pacific (Academy Ball); May 5, "Creatures of the Ice Age & Other Amazing Mammals" exhibit closes; May 25, "Bears" exhibit opens and summer hours begin (9 a.m. to 6 p.m.)

VISITOR INFORMATION

Special Exhibits: "Creatures of the Ice Age & Other Amazing Mammals," through May 5; "Lu Huan: Stone Carvings by a Chinese Master," through May 26; "Song of the Ancient Ocean: Maui's Turning Back the Sky," through May 27; "Around the World in Eighty Years," through Sep. 2. • Feeding Times: Fish Roundabout, 2 p.m.; Seals, 10:30 a.m., 12:30 p.m., & 2:30 p.m.; Penguins, 11:30 a.m., & 4 p.m. • Science In Action: General weekday programs, 11:30 a.m. Children's weekend programs, 1 p.m., & 3:30 p.m. • Guided Tours: Free onehour highlight tours daily. • Laserium Shows: Thu.-Sun. evenings. • Free Day: First Wed, of each month. • Hours: Open every day of the year. Winter hours 10 a.m.-5 p.m. Summer hours (Memorial Day weekend to Labor Day) 9 a.m.-6 p.m.



W JUNIOR ACADEMY SO

Learning is fun at the Junior Academy! More than 30 exciting workshops and field trips are being offered for children age 6-16 years during Spring Break, April 1–13. Some highlights are:

Chinese Herbs — Discover the traditional uses of Chinese herbs with Science-in-Action interns Judy Chang and David Wong. This class will take a field trip to a Chinese herb shop on Clement Street, where we'll identify and purchase a selection of herbs. On our return to the Academy of Sciences, we'll categorize the herbs, prepare a tea and make an herbal pillow.

Tue., April 2; or Tue., April 9—1 p.m. to 4 p.m. (9-16 years); Cost: \$30

Penguins on Parade — Instructor Paul Belz will lead an exciting exploration of the adaptations and habitats of these amazing birds. A class observation of the Academy of Sciences' own black-footed penguins at feeding time will show youngsters how unique they really are!

Mon., April 1; or Wed., April 10 — 10 a.m. to noon (6-8 years); Cost: \$20

An Ocean of Mammals — Examine the watery world of marine mammals with instructor Ginger Parish. A trip through the aquarium and to the Academy of Sciences' "Bone Room" will allow kids to study the feeding strategies, behavior and bone structure that showcase these mammals' special adaptations.

Wed., April 10 — 9 a.m. to 11:30 a.m. (9-12 years); Cost: \$20

To register, please use the order form above or register through the education catalog. For more information, please call the education department at 750-7100.

Encha Pacific

The Kapalakiko Hawaiian Band, Oteo Samoaona dancers and Fratelli Bologna are only some of the entertainers awaiting you at the Academy of Sciences' 11th annual fund-raising event, "Enchanted Pacific." The whole Academy will be filled with festive entertainment and divine food, including a lavish desert bar that keeps guests coming back year after year. The ball will be held on Thurs., May 2 from 6:30 p.m. to 12:30 a.m. Tickets begin at \$250 per person. For more information, please call 750-7222.

ACADEMY STORE 101

Fun Spring Break Activities

et young minds blossom this spring break! LThe Academy Store has an extensive collection of activity books, coloring kits and more. Look for the Zoology Coloring Book, designed sneakily to teach as it entertains. The Anatomy Coloring Book invites kids to color body parts

and gives detailed information about everything they color. Nature guides, self-guided experiments and wildlife videos for those rainy days also can be found. Make it a spring break of adventure and discovery!

Kids Thrilled With Ice Age Activity Center

The children's activity center in the exhibit "Creatures of

the Ice Ages & Other Amazing Mammals," offers activities for different age levels, including life-size specimen replicas, mini-computers, puzzles, animal paddle masks and fun embossing activities. Pillows as furry as the woolly mammoth invite children to sprawl out and

read a book. Special mirrors show how kids compare in size with humans' earlier relatives. A "Passport to the Ice Ages" activity sheet, complete with pencils, invite kids to explore the exhibit by asking them to pick out fun facts presented in the exhibit. Come enjoy the exhibit before it closes May 5.

WHO TO CALL A Academy Info., 750-7145 • Academy Store, 750-7410 • Admissions, 750-7159 • Aquarium, 750-7247 • Biodiversity Center, 750-7361 • Development Office, 750-7216 • Docent Tours, 750-7155 • Education Office, 750-7100 • Group Information, 750-7159 • Job Hotline, 750-7333 • Laserium, 750-7138 • Lectures, 750-7128 • Library, 750-7102 • Membership Office, 750-7111 • Planetarium, 750-7141 • Planned Giving, 750-7216 • Receptionist, 221-5100 • Security, 750-7000 • Travel, 750-7348 • Volunteer Services, 750-7154 • Weekend Information, 750-7375 © 1996 California Academy of Sciences — EDITOR, Sheri Ketchum / DESIGN, Nancy Campana Design / PRINTING, Fruitridge Printing & Lithograph Inc. Printed on recycled paper with soy-based ink.

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